



Dissemination of Pool Cool Through Lifeguards

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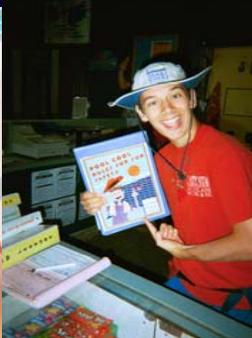
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BACKGROUND

- The role of lifeguards in the delivery and implementation of Pool Cool:
 - Mediating role
 - Delivery of sun safety lessons
 - Use of Big Book
 - Implementation of Pool Cool activities
 - Distribution of Pool Cool items





BACKGROUND



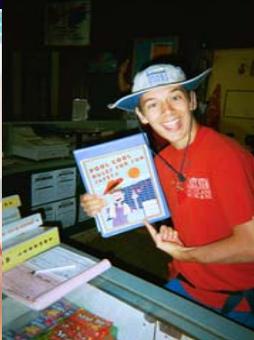
- Implementation
- Factors influencing the speed and extent of implementation:
 - Characteristics of the adopters
 - Contextual factors
 - Experimental condition



OBJECTIVE



To assess the relative contributions of individual and setting level characteristics to lifeguards' implementation of Pool Cool.



LEVEL 2

Pool characteristics

Treatment group

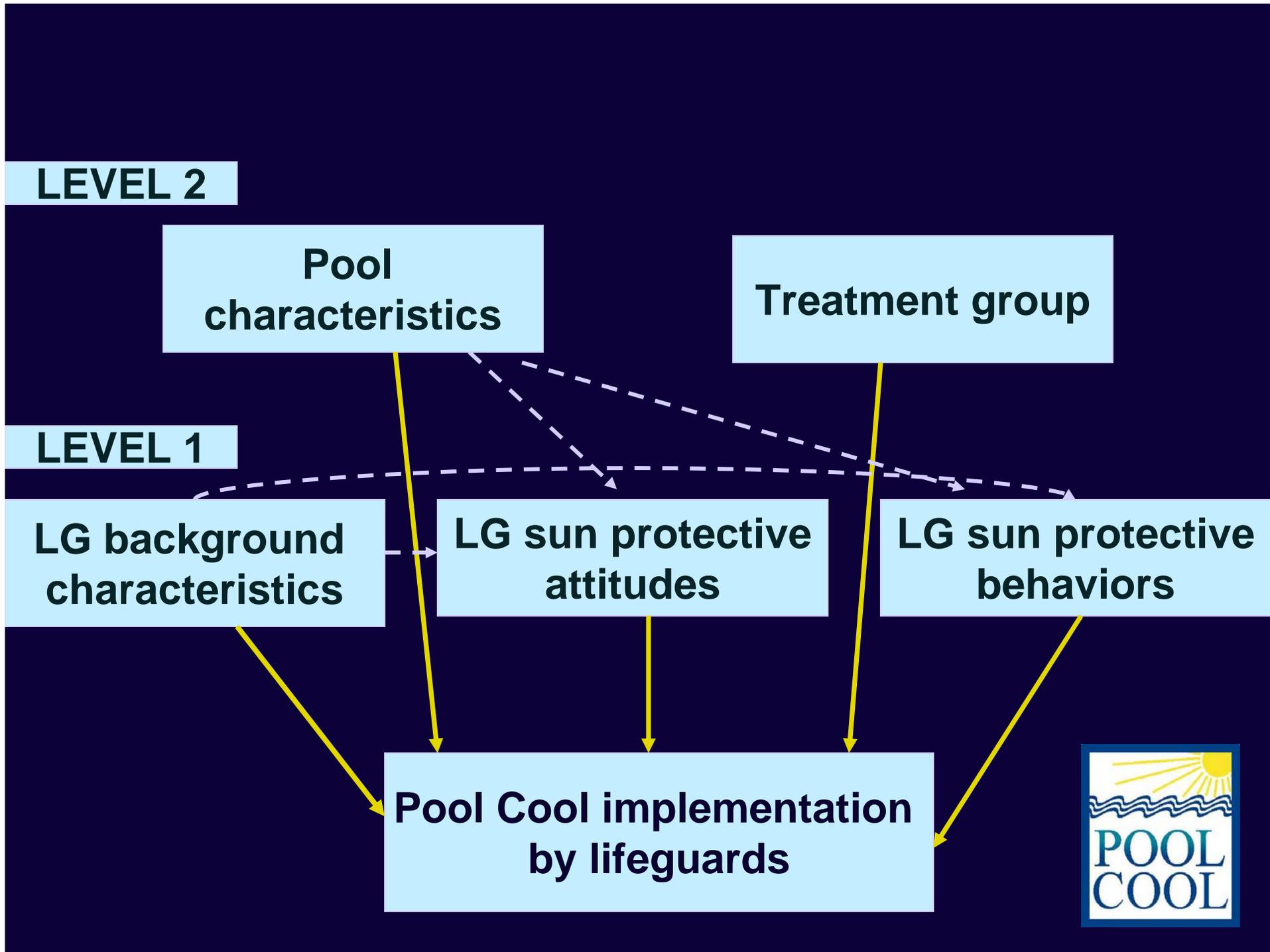
LEVEL 1

LG background characteristics

LG sun protective attitudes

LG sun protective behaviors

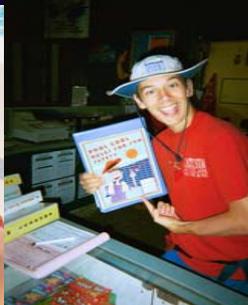
Pool Cool implementation by lifeguards





METHODS – Data source

- Lifeguard baseline and follow-up surveys from 2004 and 2005
- Pool Manager baseline survey from 2004 and 2005
- Replicate analysis using data from 2005



LEVEL 2

Pool characteristics

Treatment group

LEVEL 1

LG background characteristics

LG sun protective attitudes

LG sun protective behaviors

Pool Cool implementation by lifeguards



METHODS – Measures



- **Dependent variable: Implementation of Pool Cool by lifeguards**
 - **Composite score (16 items, ranges 0-10)**
 - Pool Cool activities subscale
 - Pool Cool Leader's Guide subscale
 - Pool Cool Items subscale
 - Use of sunscreen
 - Teaching of sun safety lessons



METHODS – Measures



- **Pool Cool Activities subscale**

“Did you take part in these Pool Cool Poolside Activities?”

- 1. Weather Watch: The UV Index*
- 2. Colored Sunscreen Demonstrations
(Blue & Purple People)*
- 3. Sun Jeopardy game*
- 4. Sun protective clothing activity (Emperor’s Clothes)*
- 5. Sun exposure card and UV Warning Patch Activity”*



METHODS – Measures



- Pool Cool Leader's Guide subscale

“1. Did you use the Pool Cool Leader's Guide?”

2. Do you know where the Pool Cool Leader's Guide is kept at this pool?”



METHODS – Measures



- **Pool Cool Items subscale**

“Did you receive any of these Pool Cool Items?”

- 1. Sunscreen samples*
- 2. Water bottle*
- 3. Lanyard*
- 4. Message pen*
- 5. UV Meter Card*
- 6. UV Warning Patch and Wristband*
- 7. T-shirt “*



METHODS – Measures



- **Two additional questions:**

- **Use of sunscreen**

- “Did you use the sunscreen in the large dispenser at the pool?”*

- **Teaching of sun safety lessons**

- “How many times total did you teach the Pool Cool sun safety lessons to children?”*



METHODS – Measures



- **Dependent variable: Implementation of Pool Cool by lifeguards**
 - **Composite score (16 items, ranged 0-10)**
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LEVEL 2

Pool characteristics

Treatment group

LEVEL 1

LG background characteristics

LG sun protective attitudes

LG sun protective behaviors

Pool Cool implementation by lifeguards





METHODS – Measures

- **Background characteristics**
 - **Age**
 - **Gender**
 - **Education (At least college education vs. less)**
 - **Race (Caucasian vs. other)**
 - **Skin cancer risk (low, medium, high)**





METHODS – Measures

- **Sun protection-related attitudes:**

- **Sun protective benefits**

- “It helps to: 1. Use sunscreen; 2. Wear a shirt with sleeves; 3. Wear a hat... etc.”*

- **Sun protective barriers**

- “How much do you agree with the following?*

- 1. People are more attractive if they have a tan...etc.”*

- **Sun protective norms**

- “How much do you agree with the following statements? 1. Most of the lifeguards I know use sunscreen as protection from the sun when they are outdoors...etc”*





METHODS – Measures

- **Sun protection-related behaviors:**

- **Sun protective behaviors**

“When you are outdoors in the sun, how often do you do the following? 1. Wear a shirt with sleeves; 2. Wear sunglasses; 3. Stay in the shade or under an umbrella...etc.”

- **Sun exposure**

“On average, how many hours were you in the sun between 10 a.m. and 4 p.m. this summer?”



LEVEL 2

Pool characteristics

Treatment group

LEVEL 1

LG background characteristics

LG sun protective attitudes

LG sun protective behaviors

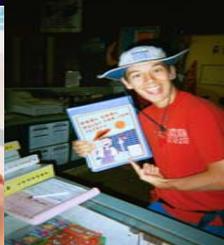
Pool Cool implementation by lifeguards



METHODS – Measures



- **Pool characteristics**
 - **Latitude (North vs. South)**
 - **Pool location (Urban vs. Suburban/rural)**
 - **Community size**
 - **Weekly pool visitors**
 - **Pool manager tenure**
 - **Sun safety and skin cancer prevention programs**
 - **Sun safety environments and policies**



METHODS – Measures



- **Sun safety and skin cancer prevention programs**

“In your aquatic programs, indicate whether you provide each of these types of programs about sun safety and/or skin cancer prevention: 1. Programs/policies for lifeguards; 2. Programs/policies for swimmers; 3. Educational activities in swimming lessons”

- **Sun safety environments and policies**

“This summer, did your pool...

- 1. Encourage swimmers to stay in the shade when they’re not swimming?*
- 2. Remind children to wear sunscreen?*
- 3. Remind parents to send children with sunscreen?*
- 4. Provide sunscreen for swimmers who forgot to put it on beforehand?”*



METHODS – Measures



- Treatment group
 - Enhanced
 - Basic





METHODS – Analysis

- **Multilevel analysis:**
 - Level 1: Lifeguard characteristics
 - Level 2: Pool characteristics and Treatment group
- **Modeling approach:**
 - Level 1 : domains
 - Level 2 : variables
 - -2LL ratio, AIC, p less than 0.1
- **Standardized coefficient estimates**



RESULTS

Sample characteristics:

2704 lifeguards from 288 pools in 2004

2829 lifeguards from 287 pools in 2005

Lifeguards:

90% (85%)*

Caucasian

61% (60%)*

Female

36% (38%)*

At least some college education

18.6 yrs (18.5 yrs)*

Mean age

38% (37%)*

Medium skin cancer risk

4.42 hrs (4.39hrs)*

Sun exposure



* 2005 data in parentheses

RESULTS

Pools:

55% (48%)*

37% (44%)*

28% (28%)*

51% (49%)*

25% (31%)*

39% (34%)*

North latitude

Urban location

2000 or more weekly pool visitors

Enhanced treatment group

300 000 or more persons served

2-4 yrs of tenure for Pool Manager

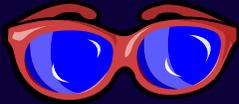


* 2005 data in parentheses

RESULTS

- **Implementation of Pool Cool by lifeguards mean score: 4 (4)***
- **Highest implementation rate:
Sunscreen use by lifeguard
(62% in 2004 and 63% in 2005)**
- **Lowest implementation rate:
Receipt of T-shirt
(9% in 2004 and 12% in 2005)**





RESULT

| Variables | Beta for 2004 | Beta for 2005 |
|--|---------------|---------------|
| Level 1: Lifeguard characteristics | | |
| Female | 0.043** | 0.069** |
| Age | 0.044* | 0.056** |
| At least college education | 0.090** | 0.064** |
| Sun protective benefits | 0.040** | 0.016 |
| Sun protective barriers | 0.005 | 0.019 |
| Sun protective norms | 0.022 | 0.004 |
| Sun protective behaviors | 0.048** | 0.073** |
| Sun exposure | 0.080** | 0.076** |
| Level 2: Pool characteristics | | |
| North region | - 0.049 | 0.110** |
| Urban location | 0.073** | 0.010 |
| 2000 or more weekly pool visitors | - 0.182** | - 0.191** |
| Sun safety and skin cancer prevention programs | 0.072* | 0.033 |
| Sun safety environments and policies | 0.095** | 0.104** |
| Enhanced treatment group | 0.129** | 0.131** |

Beta – standardized coefficient estimates; * p less than 0.1; ** p less than 0.05



CONCLUSIONS

- Moderate implementation of Pool Cool by most lifeguards (mean implementation score: 4)
- Both individual-level and setting-level characteristics significantly influenced implementation.
- Most important barrier of implementation is the number of pool visitors
- Most important facilitator of implementation is (enhanced) treatment group





RECOMMENDATIONS



- **Both individual-level and setting-level factors should be considered**
- **Assessment of local needs and adaptation of intervention materials are necessary**
- **Active, multi-modal dissemination approaches should be used**





NEXT STEPS



To assess the relative contributions of lifeguard characteristics, pool characteristics, and treatment group to:

1. Parents' and children's exposure to Pool Cool
2. Children's sun protective behavior, sun exposure, and sunburns.





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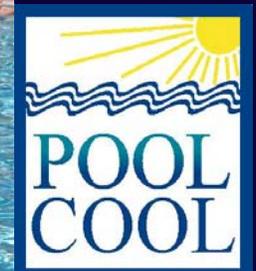
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THANK YOU!



QUESTIONS?

